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Biotechnology Notes

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Biotechnology Notes, a compilation of agency activities, news events, and upcoming meetings, is prepared for members of the U.S. Department of Agriculture's (USDA) Committee on Biotechnology in Agriculture (CBA) by USDA's Office of Agricultural Biotechnology (OAB).

INSIDE USDA

USDA MAY DEREGULATE BIOTECH TOMATO

The U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) is proposing to deregulate the Calgene Inc. "FLAVR SAVR" tomato. "After reviewing information submitted by Calgene as well as other relevant data, APHIS is proposing to issue a ruling that there is no reason to regulate the growing of this tomato any longer," said Terry Medley, director of APHIS' Biotechnology, Biologics and Environmental Protection Division. For Calgene, the proposed rule would mean the firm could grow the longer-lasting tomato on a commercial basis without seeking further USDA permits.

APHIS officials are seeking public comment on its proposed ruling. The public has until August 28, 1992 to present its views, which should be sent to Chief, Regulatory Analysis and Development, PPD, APHIS, USDA, Room 804, Federal Building, 6505 Belcrest Rd., Hyattsville, MD 20782. Please send an original and three copies and refer to docket #92-087-1. For more details, see the July 14, 1992 *Federal Register* or call APHIS at 301-436-7602; Fax: 301-436-8724.

ABRAC WORKING GROUP ON RISK ASSESSMENT TO MEET HERE AUGUST 25; FULL COMMITTEE MEETS AUGUST 26-27

Risk assessment issues associated with performance standards for field testing will be the focus of a working group meeting August 25. The working group reports to USDA's Agricultural Biotechnology Research Advisory Committee (ABRAC).

Issues to be discussed at the full ABRAC meeting on August 26-27 include plans for preparing a white paper on ethical issues and plans for a July 1993 workshop on aquaculture.

Both the working group on risk assessment and the full ABRAC will meet in the Georgetown Room of the Rosslyn Westpark Hotel, 1900 N. Fort Myer Drive, Arlington, VA., beginning at 9 a.m. The public is invited to attend both meetings. For more details, please call the Office of Agricultural Biotechnology (OAB) at 703-235-4419; Fax: 703-235-4429.

CSRS APPROVES CATFISH PROPOSAL

On July 29, John Patrick Jordan, Administrator of USDA's Cooperative State Research Service (CSRS), gave written approval to Auburn University to proceed with a research experiment on transgenic catfish in outdoor ponds. The fish have been genetically modified with a growth hormone gene from rainbow trout in an effort to increase rate of growth. The research will be carried out in new hatcheries and contained outdoor ponds at the State Agricultural Experiment Station in Auburn, Alabama. The CSRS sought the advice of six fisheries experts and USDA's ABRAC before completing its review of the proposal. To learn more about the experiment, call Rex Dunham, principal scientist, at 205-844-9121.

BEAMING BIOTECH AROUND THE NATION

USDA's Extension Service recently awarded Purdue University, in partnership with other schools, funding for a national satellite teleconference entitled "Agricultural Biotechnology: A Case Study in Public Policy Development." The teleconference will examine the socio-economic issues that play a role in shaping agricultural biotechnology public policy. The University of Wisconsin, Oregon State University, Michigan State University, and Cornell University will assist Purdue in the project. For more details, call Purdue at 317-494-8396.

U.S. SENATE CONFIRMS DUANE ACKER NEW ASSISTANT SECRETARY

Duane Acker was sworn in June 10 as USDA's Assistant Secretary for Science and Education, one day after confirmation by the Senate. Acker will oversee USDA's Agricultural Research Service, Cooperative State Research Service, Extension Service, and the National Agricultural Library.

Acker began his career in public service in 1950 as an extension youth assistant in Audubon County, Iowa. He later became an animal science instructor at Oklahoma State University and went on to higher positions at South Dakota State University and the University of Nebraska. He served as president of Kansas State University from 1975 to 1986 and is the author of one of the

foremost textbooks on animal science used in college classrooms today.

Prior to his current appointment, Acker served as administrator of USDA's Foreign Agricultural Service and the Office of International Cooperation and Development. He has also held numerous positions in professional and honorary organizations.

NEWS AROUND THE COUNTRY (AND THE WORLD)

CONTENTS: GENETICALLY MODIFIED WITH ANTISENSE PG, VR/TYLCV, PE, pTOM13, THERMAL HYSTERESIS, CYTOKININ, TRANSPOSABLE ELEMENTS AcDs

The issue of labeling new food products produced through biotechnology was the key topic at a July 13 meeting in Washington, DC of the public interest group Public Voice for Food and Health Policy. While most of those attending agreed the consumer has a right to know what he or she is eating, many felt too much information about genetically modified ingredients could scare or confuse consumers and would be almost impossible to denote on a label.

One bottle of ketchup, for example, could contain 10 varieties of tomatoes, three of which were genetically modified. To accurately reflect the amount of modified tomatoes in the bottle, it would be necessary to segregate and track these tomatoes from the time the seeds were planted until the tomato was harvested, processed, and bottled. The same dilemma exists when labeling a loaf of bread that may contain eight varieties of grain, one of which was modified to be insect resistant, another disease resistant, and a third virus resistant. Will farmers need three new silos to keep the modified grain separate from the traditionally grown ones?

One solution offered was to label only those products that are not genetically modified. Another person suggested adding a label only if the genetic modification results in a change to the nutritional status of a product or if a change could cause someone to have an allergic reaction.

The labeling issue followed a presentation on the results of a national survey on consumer attitudes about biotechnology that was conducted by Thomas Hoban, Assistant Professor in the Department of Sociology and Anthropology at North Carolina State University. Hoban found that most people (67%) were fairly positive about the general concept of biotechnology and that lower prices rather than improved quality would be the big consumer draw to biotech products. As to labeling, consumers said they wanted more

information included concerning pesticides, fat content, names of food additives, irradiation, and biotechnology. Jane Rissler, a biotechnology specialist at the National Wildlife Foundation, took issue with the survey saying the questions had a built-in bias because they emphasized the benefits rather than any real or potential risks.

THE SWEET SMELL OF BIOTECH

Maybe one day the use of manure as a fertilizer will go the way of the horse and buggy, that is if scientists can make plants more efficient at fixing nitrogen. Nitrogen fixation is scientific parlance meaning a plant's ability to create its own fertilizer with the help of common soil bacteria using nitrogen from the atmosphere. The process is well understood by researcher Eric Triplett, who will soon begin field testing crops with improved nitrogen fixing capabilities.

The research really began three years ago when Biotechnica International, Cambridge, MA, genetically engineered a bacterium called *Rhizobium*. The rhizobia help to increase the nitrogen fixation ability of alfalfa. That research was continued by Research Seeds Inc, St. Joseph, MO, in collaboration with Triplett at the University of Wisconsin in Madison.

Research Seeds recently received a permit from the Environmental Protection Agency (EPA) to field test 10 different strains of the genetically engineered bacterium at four sites in Wisconsin. At each site scientists will measure alfalfa yield to determine whether the genetically engineered rhizobia have improved the nitrogen fixation. To learn more about this experiment, call Eric Triplett at 608-262-9824; Fax: 608-262-5217.

FISHING FOR ANSWERS IN NORWAY

Aquatic biotechnology and food safety was the topic of a symposium held in Bergen, Norway, June 10-12. The meeting was sanctioned by the Organization for Economic Cooperation and Development (OECD) and attended by scientists from 13 member countries.

The symposium gave an overview of the scientific issues involved in aquatic food safety. The OECD Group of National Experts (GNE) in Safety in Biotechnology, drawing on the findings of the symposium, plans to prepare a report on "Concepts and Principles for the Safety of Food Derived from Modern Aquatic Biotechnology."

CONFERENCE SERIES ON ENVIRONMENTAL TECHNOLOGIES

Following on the heels of 10 National Technology Initiative (NTI) conferences held this year around the country will be three more focusing on environmental technologies. Issues to be discussed include environmental health, remote sensing, air pollution, ecological research, pollution prevention, environmental monitoring and measurement, hazardous waste, bioremediation, and ground water. The sponsors are EPA and the Department of Energy. The dates, locations, and phone numbers are: Sept. 3, Las Vegas, NV, 617-641-5317; Sept. 9, Cincinnati, OH, 617-641-5347; and Sept. 29, Research Triangle Park, NC, 617-641-5334.

RIFKIN MOUNTS NEW CAMPAIGN

Jeremy Rifkin, president of the Foundation on Economic Trends, launched a "Pure Food Campaign" July 28 to protest the Food and Drug Administration's new policy regarding genetically engineered foods. To support his protest, 1,000 chefs around the country have pledged not to use or serve foods prepared using biotechnology. Rifkin feels such products should be more thoroughly tested and labeled before entering the marketplace. The chefs said they are planning to place an emblem on their menus which says they do not use or serve genetically engineered foods.

ROSES ARE BLUE, VIOLETS ARE RED

The ornamental flower industry may be headed for some changes in the near future, according to the March/April issue of *Agro Food Industry*. Researchers in Finland have isolated two genes that code for color from the *Gerbera* variety Regina. They made constructs of the genes in *Agrobacterium* and inserted them into a line of petunias which are defective in color synthesis. All of the offspring were bright red or orange, the same color as the Regina from which the gene was isolated. These same techniques are being used to change the color of commercial varieties of *Chrysanthemum* and to develop blue roses. One company is also trying to extend the vase life of carnations and other cut flowers by using genetic engineering to inhibit the synthesis of ethylene, a substance associated with decay of plant tissues.

OECD GROUP OF NATIONAL EXPERTS CONVENES IN PARIS

The OECD GNE on Safety in Biotechnology convened its Sixth Plenary Session, June 16-17, 1992 in Paris. The GNE's goal is to reach international consensus on the scientific principles which underpin sound decisions on biosafety. The GNE put the finishing touches on

a document entitled "Concepts and Principles Underpinning Safety Evaluation of Food Derived by Modern Biotechnology." The GNE is also developing a document on scientific issues and principles pertaining to the scale-up of crop plants. Representing USDA were Terry Medley and Sally McCammon, APHIS; Sue Tolin, CSRS; and Jim Cook, Agricultural Research Service (ARS).

NEW TECH TRANSFER CENTER BUILT

The National Technology Transfer Center in Wheeling, W.VA was established by a congressional mandate in 1989. The Center's mission is to serve as the nation's main clearinghouse for information about federally sponsored research and development. The heartbeat of the Center will be a federal laboratory data system which will contain almost everything you ever wanted to know about federal technology. A prototype 1-800 phone number has already been installed. To learn more, call the new executive director, Lee Rivers, at 1-800-678-6882.

IN CASE YOU WEREN'T THERE

■ CSRS Administrator John Patrick Jordan was a panelist at a workshop entitled "Partnerships in Life Sciences" that was sponsored by the University of Maryland, July 9, in Gaithersburg, MD. The workshop was the 10th in a 10-part series sponsored by a coalition of federal agencies trying to promote the transfer of technology from federal laboratories to the private sector.

Jordan spoke about the roots of the state agricultural system with its emphasis on university-state-federal cooperation. "That the life sciences and the agricultural sciences go hand-in-hand is a given in our enterprise," said Jordan, "because both disciplines focus on people, places, production, and products." He went on to describe USDA's technology transfer activities including the 250 CRADA's (cooperative research and development agreements) that have been negotiated between the ARS and industry, plus about 40 more between the Forest Service and private firms. He said new ones are issued at a rate of about 55 per year.

USDA's OAB coordinated the USDA exhibit for this meeting as well as for three other NTI conferences held in North Carolina, California, and Colorado. The Department reached about 2,000 small business owners who attended the conferences, sharing information about the Department's tech transfer and small business innovation programs.

■ A symposium entitled "Molecular Crop Agriculture for the Pacific Rim" was organized by the University of California Davis, June 20-24, 1992 in Sacramento, CA. Participants heard presentations from scientists in the United States, Thailand, the United Kingdom, Japan, Australia, China, Malaysia, Chile, and Mexico describe research on application of molecular biology to enhancing crop quality, gene identification, food preservation, producing novel crop products, and crop protection. Alvin Young, OAB Director, chaired a session on social and economic issues during which Martha Steinbock, OAB, gave a talk on opportunities for international collaboration in agricultural biotechnology.

NEW PUBLICATIONS

■ *Rice Genome* is a new newsletter reporting on the Rice Genome Research Program that started October 1, 1991. It is managed by the National Institute of Agrobiological Resources (NIAR) and the Society for Techno-innovation of Agriculture, Forestry and Fisheries. The main center of research activity is in Tsukuba City near Tokyo. The newsletter is free of charge. The first issue is dated July 1992 and the next one will be published in late autumn. To receive a copy, write to Editorial Office of Rice Genome, NIAR, 2-1-2 Kannondai, Tsukuba, Ibaraki 305, Japan; or send a fax to: +81-298-38-7468.

■ *Agricultural Biotechnology: The Next Green Revolution?* Published by the World Bank. To order call 908-225-2165; Fax: 908-417-0482. Request stock #11741.

UPCOMING MEETINGS

Aug. 16-21: Ninth International Biotechnology Symposium and Exposition entitled "Harnessing Biotechnology for the 21st Century." Crystal City, VA. Hosted by the American Chemical Society. For details call 202-872-4485; Fax: 202-872-6067.

Aug. 18-20: Public meeting on veterinary biologics. Ames, Iowa. Sponsored by USDA's APHIS as part of its annual information exchange with producers of biologicals. For details call Frank Tang at 301-436-4833.

Aug. 18-21: "Plant Biotechnology Methods." Penn State University, University Park, PA. Call 1-800-833-5533.

Aug. 24-28: International Symposium on Population Genetics and Gene Conservation of Forest Trees. Bordeaux, France. Sponsored by the International Union of Forestry Research Organizations. For

details write to P. H. Baradat, INRA, B.P. 45 33611, Gazinet Cedex, France; or call 33-56-68-03-13; Fax: 33-56-68-02-23.

Aug. 26-27: Meeting of USDA's ABRAC. Rosslyn, VA. For details call the OAB at 703-235-4419; Fax: 703-235-4429.

Aug. 26-29: "BioJapan '92." Yokohama, Japan. Organized by the Japan Bioindustry Association. For details write to Secretariat of BioJapan '92 Symposium, c/o International Communications Inc., Kasho Bldg., 2-14-9, Nihombashi, Chuo-ku, Tokyo 103, Japan; or call 81-3-3272-7981; Fax: 81-3-3273-2445.

Sept. 22: "Fifth Annual Colorado Biotechnology Symposium." Fort Collins, CO. Sponsored by the Colorado Institute for Research in Biotechnology. For details call Vincent G. Murphy at 303-491-1791.

Sept. 24-25: The 6th Forum for Applied Biotechnology. Brugge, Belgium. Organized by the faculty of agricultural sciences of the University of Gent and by the Regional Development Authority of West Flanders. For details write to: Administrative Center FAB, c/o GOM-West-Vlaanderen, Baron Ruzettelaan 33, 8310 Assebroek-Brugge, Belgium.

Oct. 6-9: "Biobased Products Expo '92." St. Louis, MO. Sponsors include USDA, the Department of Energy, the Department of Commerce, and the Agricultural Research Institute. For details call 301-530-7122 or send a Fax to 301-571-1837.

Oct. 12-14: IBEX '92: International Biotechnology Expo and Scientific Conference. San Francisco, CA. Call 415-508-0118; Fax: 415-595-4864.

Oct. 15-18: Biorama '92. Bari, Italy. This meeting features a series of discussions on biotechnology as applied to agriculture, food, the environment, chemicals, energy, pharmaceuticals, cosmetics, medicine, and zootechnology. For details write to MEDEX srl, Via Montevideo 12, I--00198 Rome, Italy, or call 39-6-3233-575; Fax: 39-6-323-4033.

BIOTECHNOLOGY NOTES is written by Marti Asner, public affairs specialist in USDA's Office of Agricultural Biotechnology. Suggestions for items to include in future issues are always appreciated and may be sent to USDA/OAB, Room 1001, Rosslyn Plaza East, 14th and Independence Ave., S.W., Washington, DC 20250-2200. Telephone: 703-235-4419; Fax: 703-235-4429.